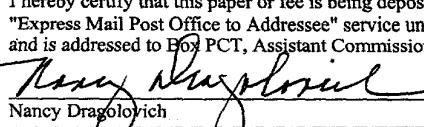


U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE FORM PTO-1390 (REV. 11-2000)		ATTORNEY'S DOCKET NUMBER 41165-9016
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 09/807299
INTERNATIONAL APPLICATION NO. PCT/EP99/07635	INTERNATIONAL FILING DATE 12 October 1999 (12.10.99)	PRIORITY DATE CLAIMED 12 October 1998 (12.10.98)
TITLE OF INVENTION Base Station for a Short-Range Radio System and Data Communication System		
APPLICANT(S) FOR DO/EO/US Franz A. Dosch		
<p>Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:</p> <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. <input type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ul style="list-style-type: none"> a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input checked="" type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). <ul style="list-style-type: none"> a. <input checked="" type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ul style="list-style-type: none"> a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). <p>Items 11 to 20 below concern document(s) or information included:</p> <ol style="list-style-type: none"> 11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. 14. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A change of power of attorney and/or address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825. 18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 20. <input checked="" type="checkbox"/> Other items or information: Letter Submitting Proposed Drawing Changes 		
<div style="border: 1px solid black; padding: 5px; text-align: center;"> Express Mail Label No. EL417143137US I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date of my signature and is addressed to Box PCT, Assistant Commissioner for Patents, Washington, D.C. 20231.  Nancy Dragolovich 11 April 2001 Date of Deposit </div>		

U.S. APPLICATION NO. (4010000000000000000)	INTERNATIONAL APPLICATION NO. PCT/EP99/07635	ATTORNEY'S DOCKET NUMBER 41165-9016			
<p>21. <input checked="" type="checkbox"/> The following fees are submitted:</p> <p>BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):</p> <p>Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1000.00</p> <p>International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$860.00</p> <p>International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$710.00</p> <p>International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$690.00</p> <p>International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00</p>		CALCULATIONS PTO USE ONLY			
ENTER APPROPRIATE BASIC FEE AMOUNT =		\$ 860.00			
<p>Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).</p>		\$			
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$	
Total claims	22 - 20 =	2	x \$18.00	\$ 36.00	
Independent claims	3 - 3 =	0	x \$80.00	\$ 0	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)		+ \$270.00		\$	
				TOTAL OF ABOVE CALCULATIONS =	\$ 896.00
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.		+		\$ 448.00	
				SUBTOTAL =	\$ 448.00
\$130.00 fee for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30					

**UNITED STATES PATENT AND TRADEMARK OFFICE
DOCUMENT CLASSIFICATION BARCODE SHEET**



Miscellaneous

10

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re

International Application of

Franz A. Dosch

International Application No.
PCT/EP99/07635

International Filing Date:
12 October 1999

BASE STATION FOR A SHORT-RANGE RADIO SYSTEM AND DATA
COMMUNICATION SYSTEM

PRELIMINARY AMENDMENT

BOX PCT
Assistant Commissioner for Patents
Washington, DC 20231

Sir:

Please amend the application as follows prior to calculation of the filing fees.

IN THE SPECIFICATION

Please delete the second full paragraph on page 3, which states "Preferred
embodiments of the present invention are subject of the subclaims."

IN THE DRAWINGS

Applicant is submitting herewith a Letter Submitting Proposed Drawing Changes
under 37 C.F.R. §1.121(3)(ii). No new matter has been added to the drawings.

IN THE CLAIMS

Substitute the following claims for the corresponding numbered claims in the
application.

1. (Amended) A base station for a short-range radio system working according to a first standard, the base station comprising:

means allowing a wireless data communication with a computer device via the first radio standard, wherein

the base station further includes a locating area for inserting a standard mobile radio device working in another second radio standard, with an electrical data interface being disposed in the locating area, the electrical data interface being connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized, and wherein

the base station further includes a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device.

2. (Amended) A base station according to claim 1, wherein the data interface is a serial interface.

3. (Amended) A base station according to claim 1, wherein the locating area of the base station is shell-shaped and corresponds in respect of its dimensions to the outer dimensions of the part of the mobile radio device accommodated in the locating area when the mobile radio device is inserted in the base station.

4. (Amended) A base station according to claim 3, wherein the electrical data interface of the base station comprises a plug automatically engaging with a corresponding plug socket of the mobile radio device when the mobile radio device is inserted into the base station.

5. (Amended) A base station according to claim 1, wherein the base station is additionally designed as a charging station for charging the mobile radio device.

6. (Amended) A base station according to claim 5, wherein the base station comprises charging contacts in the locating area contacting corresponding charging contacts of the mobile radio device when the mobile radio device is inserted into the base station so as to allow charging.

7. (Amended) A base station according to claim 1, wherein the base station comprises means for converting the signals received in the first radio standard into a third cable-bound standard, for feeding the correspondingly converted signals into a fixed network as well as for converting signals received via cable from a fixed network according to the third standard, into signals according to the first radio standard for transmission to the computer device.

8. (Amended) A base station according to claim 1, wherein the base station comprises an operation display for displaying an active radio operation.

9. (Amended) A base station according to claim 5, wherein an additional operation display is provided displaying a charging process.

10. (Amended) A data communication system comprising:

a base station for a short-range radio system working according to a first standard, with the base station including means allowing a wireless data communication with a computer device via the first radio standard, wherein

the base station includes a locating area for inserting a standard mobile radio device working in another second radio standard, with an electrical data interface being disposed in the locating area, the electrical data interface being connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized, and

the base station including a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device,

a mobile radio device working according to the second radio standard, and

a computer device including a radio module for wirelessly connecting the computer device to the base station working according to the first radio standard.

11. (Amended) A system according to claim 10, wherein the radio module of the computer device is designed as a PCMCIA card with an antenna being inserted in a port of the computer device.

12. (Amended) A file case having an integrated base station for a short-range radio system working according to a first standard, with the base station comprising:

means allowing a wireless data communication with a computer device via the first radio standard, wherein

the base station includes a locating area for inserting a standard mobile radio device working in another second radio standard, with an electrical data interface being disposed in the locating area, the electrical data interface being connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized, the base station further including a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device.

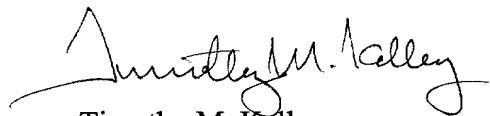
Please add the following claims.

13. (New) A base station according to claim 1 wherein the first standard is a DECT standard.
14. (New) A base station according to claim 1 wherein the second standard is a GSM standard.
15. (New) A base station according to claim 2 wherein the serial interface device is provided in a GSM mobile radio device.
16. (New) A base station according to claim 7 wherein the third standard is an ISDN standard.
17. (New) A data communication system according to claim 10 wherein the first standard is a DECT standard.
18. (New) A data communication system according to claim 10 wherein the second standard is a GSM standard.
19. (New) A data communication system according to claim 10 wherein the mobile radio device is a GSM mobile radio device.
20. (New) A data communication system according to claim 10 wherein the computer device is a laptop computer.
21. (New) A file case according to claim 12 wherein the first standard is a DECT standard.
22. (New) A file case according to claim 12 wherein the second standard is a GSM standard.

REMARKS

The claims have been amended to remove multiple dependent claims and to conform to U.S. Patent Office practice. The drawings have also been amended to conform to U.S. Patent Office practice. Please enter this amendment before calculating the filing fees.

Respectfully submitted,



Timothy M. Kelley
Reg. No. 34,201

File No. 41165-9016

Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Milwaukee, WI 53202-4108
(414) 271-6560

Version with markings to show changes made

In the Claims:

1. (Amended) A base [Base] station for a short-range radio system working according to a first standard, [especially for structuring a radio cell in the DECT standard, with] the base station comprising:

means allowing a wireless data communication with a computer device via the first radio standard, [especially the DECT standard,] wherein

the base station further includes [comprises] a locating area for inserting a standard mobile radio device working in another second radio standard, [especially the GSM standard,] with an electrical data interface being disposed in the locating area, the electrical data interface being [which is] connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized, and wherein

the base station further includes [comprises] a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device.

2. (Amended) A base [Base] station according to claim 1, wherein the data interface is a serial interface [, as is provided in GSM mobile radio devices as standard].
3. (Amended) A base [Base] station according to claim 1 [or 2], wherein the locating area of the base station is shell-shaped and corresponds in respect of its dimensions to the outer dimensions of the part of the mobile radio device accommodated in the locating area when the mobile radio device is inserted in the base station.
4. (Amended) A base [Base] station according to claim 3, wherein the electrical data interface of the base station comprises a plug automatically engaging with a corresponding plug socket of the mobile radio device when the mobile radio device is inserted into the base station.
5. (Amended) A base [Base] station according to claim 1 [one of the preceding claims], wherein the base station is additionally designed as a charging station for charging the mobile radio device.
6. (Amended) A base [Base] station according to claim 5, wherein the base station comprises charging contacts in the locating area contacting corresponding charging contacts of the mobile radio device when the mobile radio device is inserted into the base station so as to allow charging.

7. (Amended) A base [Base] station according to claim 1 [one of the preceding claims], wherein the base station comprises means for converting the signals received in the first radio standard into a third cable-bound standard, [preferably the ISDN standard,] for feeding the correspondingly converted signals into a fixed network as well as for converting signals received via cable from a fixed network according to the third standard, [preferably the ISDN standard,] into signals according to the first radio standard for transmission to the computer device.

8. (Amended) A base [Base] station according to claim 1 [one of the preceding claims], wherein the base station comprises an operation display [, especially] for displaying an active radio operation.

9. (Amended) A base [Base] station according to claim 5, wherein an additional operation display is provided displaying a charging process.

10. (Amended) A data [Data] communication system comprising:

a base station for a short-range radio system working according to a first standard, [especially for structuring a radio cell in the DECT standard,] with the base station including [comprising] means allowing a wireless data communication with a computer device via the first radio standard, [especially the DECT standard,] wherein the base station includes [comprises] a locating area for inserting a standard mobile radio device working in another second radio standard, [especially the GSM standard,] with an electrical data interface being disposed in the locating area, the electrical data interface being [which is] connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized, and the base station including [comprises] a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device,

a mobile radio device working according to the second radio standard, [especially a GSM mobile radio device,] and a computer device [, preferably a laptop,] including [comprising] a radio module for wirelessly connecting the computer device to the base station working according to the first radio standard [, preferably the DECT standard].

11. (Amended) A system [System] according to claim 10, wherein the radio module of the computer device [, preferably a laptop,] is designed as a PCMCIA card with an antenna being inserted in a port of the computer device.

12. (Amended) A file [File] case having an integrated base station for a short-range radio system working according to a first standard, [especially for structuring a radio cell in the DECT standard,] with the base station comprising:

means allowing a wireless data communication with a computer device via the first radio standard, [especially the DECT standard,] wherein

the base station includes [comprises] a locating area for inserting a standard mobile radio device working in another second radio standard, [especially the GSM standard,] with an electrical data interface being disposed in the locating area, the electrical data interface being [which is] connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized, the base station further including [comprises] a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interlace and for converting the data received by the mobile radio device via the data interlace into the first radio standard for transmission to the computer device.

3/PR/TS

PCT/EP99/07635
WO 00/22782

**Base station for a short-range radio system and
data communication system**

The present invention relates to a base station for a short-range radio system and a data communication system and particularly to a base station for the DECT standard.

Mobile radio systems such as the GSM system or future satellite-based systems offer corresponding users nearly unlimited possibilities for the mobile voice communication. Also the data communication becomes increasingly important in connection with said systems, for which purpose the mobile radio terminal is usually connected with the corresponding data processing device via a cable, whereby the data processing device again is equipped with the hardware and software required for the data communication.

In private life and in offices, moreover, cordless telephone systems are increasingly used, which, in contrast to the aforementioned global systems, can be classified as local mobile radio services. Examples for such systems are DECT (Digital Enhanced Cordless Telecommunication), PHS (Personal Handy System), PWT (Personal Wireless Telecommunication), CT-1, CT-2 (Cordless Telephone) etc..

In order to facilitate the handling with the above-mentioned systems for the users so-called dual mode devices have been developed, which are optionally suited for a local mobile radio service, i.e. particularly for telephoning cordlessly in the private sector, as well as for global mobile radio services such as the GSM system.

A solution for the improved combined use of existing local and global mobile radio services was described by the present applicant in the European Patent Application 97 11 3393.9 filed on August 4, 1997.

The mobile radio device proposed therein enables in an elegant manner the wireless data communications on the basis of a computer device via a global mobile radio system such as the GSM system, whereby the computer device does not have to be specifically adapted to the GSM standard, but can perform a data communication in the DECT standard, which is already in use for office applications.

The solution described in the aforementioned patent application offers economical advantages, as the computer device needs to be equipped with one single radio module only for both, local communication and global communication, namely with the one for local communication. Said advantage becomes, however, feasible only by retrofitting a mobile radio device according to the GSM standard in a way so as to allow a conversion from the DECT standard into the GSM standard.

Additional possible solutions for supporting the wireless data communication for computer devices consist in the provision of an internal or external radio module for the computer device, which is connected to a fixed network via a short-range radio standard like the DECT, as well as in the connection of the computer device to a serial data interface of a mobile radio device such as a GSM mobile radio device via a cable.

On the basis of the aforementioned known principles it is the object of the present invention to provide a base station and a data communication system allowing a cost efficient and flexible wireless data communication with computer devices.

Said object is on one hand provided by a base station for a short-range radio system working according to a first standard, in particular for structuring a radio cell in DECT standard, wherein the base station comprises devices allowing a wireless data communication with a computer device using the first radio standard, especially the DECT standard, wherein the base station comprises a locating area for inserting a standard mobile radio device working with a different second radio standard, especially the GSM standard, wherein an electrical data interface is disposed in the locating area, said interface being coupled to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized, wherein the base station comprises a converting means for converting the radio signals received in the

first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device.

On the other hand said object is provided by a data communication system comprising the aforementioned base station as well as additionally a mobile radio device corresponding to the second radio standard and a computer device, preferably a laptop, having a radio module for wirelessly coupling the computer device to the base station according to the first radio standard.

Preferred embodiments of the present invention are subject of the subclaims.

An essential advantage of the base station according to the invention resides in the possibility to connect a computer device designed for the wireless communication in the DECT standard via a standard mobile radio device to the GSM standard. The connection is thereby not only achieved inside spaces working on a DECT infrastructure, but at optional locations, as the base station according to the invention itself provides a DECT radio cell for the communication with the computer device. The computer device, which is preferably connected to the DECT environment by an inserted PCMCIA card with an antenna need not be further adjusted for the connection to the GSM network. Thus, the user of the computer device can perform a broadband and qualitatively high-grade data communication in the DECT network by means of a single radio module, preferably the aforementioned PCMCIA card, and can set up via the inventive base station a cordless connection to the base station according to the invention, in which the conversion into the GSM standard then takes place, with the same card and outside DECT cells, but without additional measures.

As was indicated above, a commercially available GSM mobile radio device can be used for the connection to the GSM network, wherein the computer device, preferably a laptop, may be used as a comfortable user interface for the GSM mobile telephone. Thus, the comfort even of inexpensive mobile radio devices can be drastically increased.

The base station according to the invention preferably serves as a charging station for the mobile radio device at the same time. Therefore, when the user goes on a trip, he does not have to carry along an additional device, but merely a correspondingly extended charging station.

The base station according to the invention is, moreover, preferably so designed that it may be operated as a normal base station and particularly allows a connection to the fixed network in a cable-bound or wireless manner.

Preferred embodiments of the following invention will hereinafter be explained in more detail with reference to the attached drawings, wherein the drawings show in detail:

- Fig. 1 a schematic illustration of an embodiment of the base station according to the invention;
- Fig. 2 the base station according to figure 1 with a mobile radio device inserted therein, and
- Fig. 3 a schematic illustration of an embodiment of the data communication system according to the invention comprising a base station and a mobile radio device according to figure 2.

The following description of preferred embodiments of the invention is based on the DECT standard as short-range radio standard and on the GSM standard as second standard. Whereas said selection is preferred, the present invention is not limited to the use of said standards. As far as the short-range radio standard is concerned any other short-range radio system may be used, e.g. PHS, Bluetooth, 2.4 GHz Technology etc.. Instead of the GSM standard as second standard other radio standards may be used, such as CDMA, PCN, special standards for satellites etc..

Figure 1 shows in a schematic illustration a preferred embodiment of the base station 1 according to the invention. The base station serves to set up a radio communication working according to the DECT standard with a computer device,

preferably a laptop. In accordance therewith the computer device comprises a radio module allowing a connection of the computer device to the DECT standard.

The base station 1 comprises a locating area 2 preferably having the shape of a shell, for placing or inserting a mobile radio device therein.

Figure 2 shows the base station 1 with a mobile radio device 3 inserted therein. The mobile radio device is exemplarily designed as a GSM mobile phone constituting a commercially available GSM terminal without specific adjustment. On its bottom side the mobile radio device is provided with a data interface 4 serving the serial input and output of data. The data interface 4 of the mobile radio device is designed to be a plug socket and corresponds with a plug 5 in the base station 1. Thus, when inserting the mobile radio device 3 into the base station 1, a connection of the data interface of the mobile radio device with the data interface of the base station is automatically achieved via the socket/plug combination 4, 5.

The base station 1 is preferably constructed as a charging station for the mobile radio device 3 at the same time and, therefore, is provided with corresponding charging terminals or, respectively, charging contacts 6, 6'. Said charging terminals may be supported by a spring and contact corresponding charging contacts of the mobile radio device when said mobile radio device 3 is inserted into the charging shell, so that an automatic charging may take place.

For securely arresting the mobile radio device 3 in the base station 1, the latter is preferably provided with locking clasps 7.

In addition, the base station is optionally provided with a power supply 8, particularly if the base station is a charging station at the same time.

Furthermore, the base station preferably comprises an operation display 9 for displaying an active sending and receiving state, and a display 10 for displaying an active charging process.

In its interior the base station 1 is provided with a sending/receiving module allowing a data communication in the DECT standard with a computer device via the antenna 11.

Figure 3 shows in a schematic manner the connection of computer devices 12, preferably notebooks, with the base station 1 according to the invention via the DECT standard. The radio module required for the computer devices 12 is preferably a PCMCIA card, which is inserted in a lateral slot of the corresponding computer device. In the computer devices 12 illustrated in figure 3 the PCMCIA card is already inserted, and merely an antenna 13 of the PCMCIA card projecting out of the computer device during operation is visible.

The computer device can, however, also be equipped with any other suited PC radio module (USB, ISA, PCI) corresponding with the standard of the base station.

The operation of the data communication system schematically illustrated in figure 3 works as follows. The computer devices 12 have radio contact with the base station 1 via their radio modules, which are preferably working in the DECT standard.

The base station 1 comprises means for converting the signals received from the computer device 12 into a data format corresponding to the data format, which can be received by the mobile radio device 3 via interface 4. In the case of common GSM mobile phones the base station 1 thus converts the received signals into a serial data flow, in which form it can be received by GSM mobile phones in a standard-like manner via the interface 4. The base station 1 comprises corresponding means for converting data, received by the mobile radio device 3 via the interface 4, into signals, which can be sent via antenna 11 to the computer device 12 in the corresponding radio standard.

The mobile radio device 3 already comprises as standard means for converting the data received via the interface 4 into GSM signals and, moreover, already comprises as standard means for converting received GSM signals into the corresponding serial data for outputting them via the interface 4.

As long as the user of the computer device 12 is within a DECT environment, he is able by means of the inserted PCMCIA card with antenna 13, to set up a broadband and qualitatively high-grade data communication with corresponding DECT base stations, wherein the base station 1 itself may constitute such a base station. For this case the base station 1 is preferably designed as a complete DECT base station, with the possibility of setting up a connection to the fixed network via an interface. If the user is located outside his usual DECT environment, he still is able to set up a connection between his computer device 12 and the base station 1 working according to the DECT standard, as the base station 1 itself provides a DECT radio cell. In this case the corresponding data are, however, not forwarded by the base station to a fixed network or another computer device, but are converted into the aforementioned serial data format so as to be fed via the interface 4 of the inserted mobile radio device into the same, where said data are then converted into the usual GSM signals and are emitted correspondingly.

As was mentioned above, the computer device 12 may be designed as a comfortable user interface for the mobile radio device 3 during said operation. Especially functions like telephone registry, auto-dialing, SMS message box, editor for SMS messages etc. can be provided by the computer device 12.

The construction of the base station 3 also as a charging station entails the advantage that the user, when going on a trip, need not carry along an additional device. Especially for said case it is useful that the base station is integrated in a file case, in which also the mobile radio device is usually carried along. The user can thereby, for instance in a hotel, set up via the GSM network or a correspondingly other network a data communication from his laptop, by interconnecting the base station 1 integrated in his file case.

Patent Claims

1. Base station for a short-range radio system working according to a first standard, especially for structuring a radio cell in the DECT standard, with the base station comprising means allowing a wireless data communication with a computer device via the first radio standard, especially the DECT standard, wherein

the base station comprises a locating area for inserting a standard mobile radio device working in another second radio standard, especially the GSM standard, with an electrical data interface being disposed in the locating area, which is connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized,

the base station comprises a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device.

2. Base station according to claim 1, wherein the data interface is a serial interface, as is provided in GSM mobile radio devices as standard.
3. Base station according to claim 1 or 2, wherein the locating area of the base station is shell-shaped and corresponds in respect of its dimensions to the outer dimensions of the part of the mobile radio device accommodated in the locating area when the mobile radio device is inserted in the base station.
4. Base station according to claim 3, wherein the electrical data interface of the base station comprises a plug automatically engaging with a corresponding plug socket of the mobile radio device when the mobile radio device is inserted into the base station.

5. Base station according to one of the preceding claims, wherein the base station is additionally designed as charging station for charging the mobile radio device.
6. Base station according to claim 5, wherein the base station comprises charging contacts in the locating area contacting corresponding charging contacts of the mobile radio device when the mobile radio device is inserted into the base station so as to allow charging.
7. Base station according to one of the preceding claims, wherein the base station comprises means for converting the signals received in the first radio standard into a third cable-bound standard, preferably the ISDN standard, for feeding the correspondingly converted signals into a fixed network as well as for converting signals received via cable from a fixed network according to the third standard, preferably the ISDN standard, into signals according to the first radio standard for transmission to the computer device.
8. Base station according to one of the preceding claims, wherein the base station comprises an operation display, especially for displaying an active radio operation.
9. Base station according to claim 5, wherein an additional operation display is provided displaying a charging process.
10. Data communication system comprising:

a base station for a short-range radio system working according to a first standard, especially for structuring a radio cell in the DECT standard, with the base station comprising means allowing a wireless data communication with a computer device via the first radio standard, especially the DECT standard, wherein

the base station comprises a locating area for inserting a standard mobile radio device working in another second radio standard, especially the GSM standard, with an electrical data interface being disposed in the locating

area, which is connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized,

the base station comprises a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device,

a mobile radio device working according to the second radio standard, especially a GSM mobile radio device,

a computer device, preferably a laptop, comprising a radio module for wirelessly connecting the computer device to the base station working according to the first radio standard, preferably the DECT standard.

11. System according to claim 10, wherein the radio module of the computer device, preferably a laptop, is designed as a PCMCIA card with an antenna being inserted in a port of the computer device.
12. File case having an integrated base station for a short-range radio system working according to a first standard, especially for structuring a radio cell in the DECT standard, with the base station comprising means allowing a wireless data communication with a computer device via the first radio standard, especially the DECT standard, wherein

the base station comprises a locating area for inserting a standard mobile radio device working in another second radio standard, especially the GSM standard, with an electrical data interface being disposed in the locating area, which is connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized,

the base station comprises a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device.

Abstract

Base station for a short-range radio system working according to a first standard, especially for structuring a radio cell in the DECT standard, with the base station comprising means allowing a wireless data communication with a computer device via the first radio standard, especially the DECT standard, wherein the base station comprises a locating area for inserting a standard mobile radio device working in another second radio standard, especially the GSM standard, with an electrical data interface being disposed in the locating area, which is connected to a corresponding data interface of the mobile radio device when the mobile radio device is being utilized, wherein the base station comprises a converting means for converting radio signals received in the first standard into a data format compatible with the electric data interface of the mobile radio device, for transmitting the converted data to the mobile radio device via the data interface and for converting the data received by the mobile radio device via the data interface into the first radio standard for transmission to the computer device.

1/3

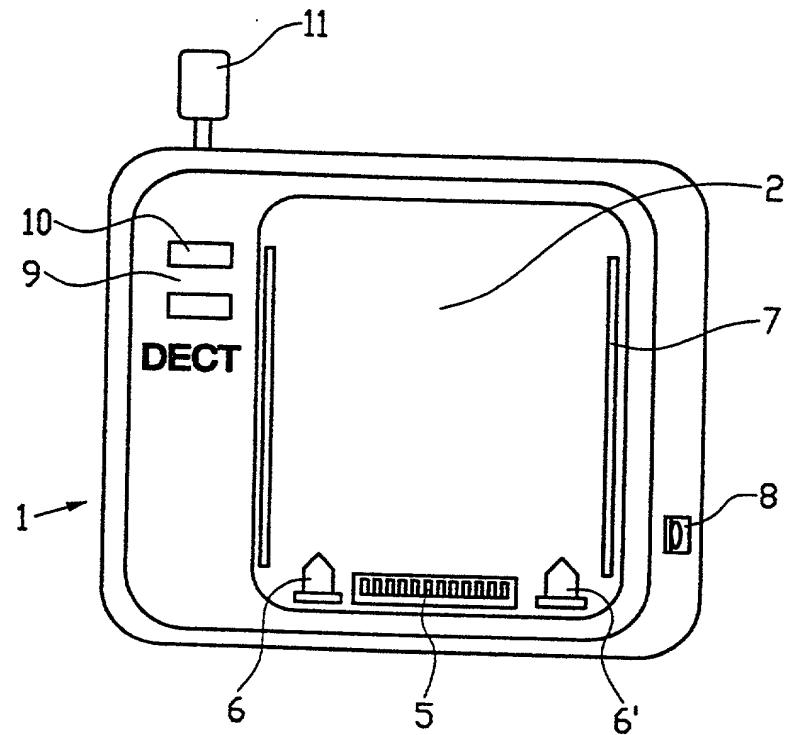


FIG. 1

2/3

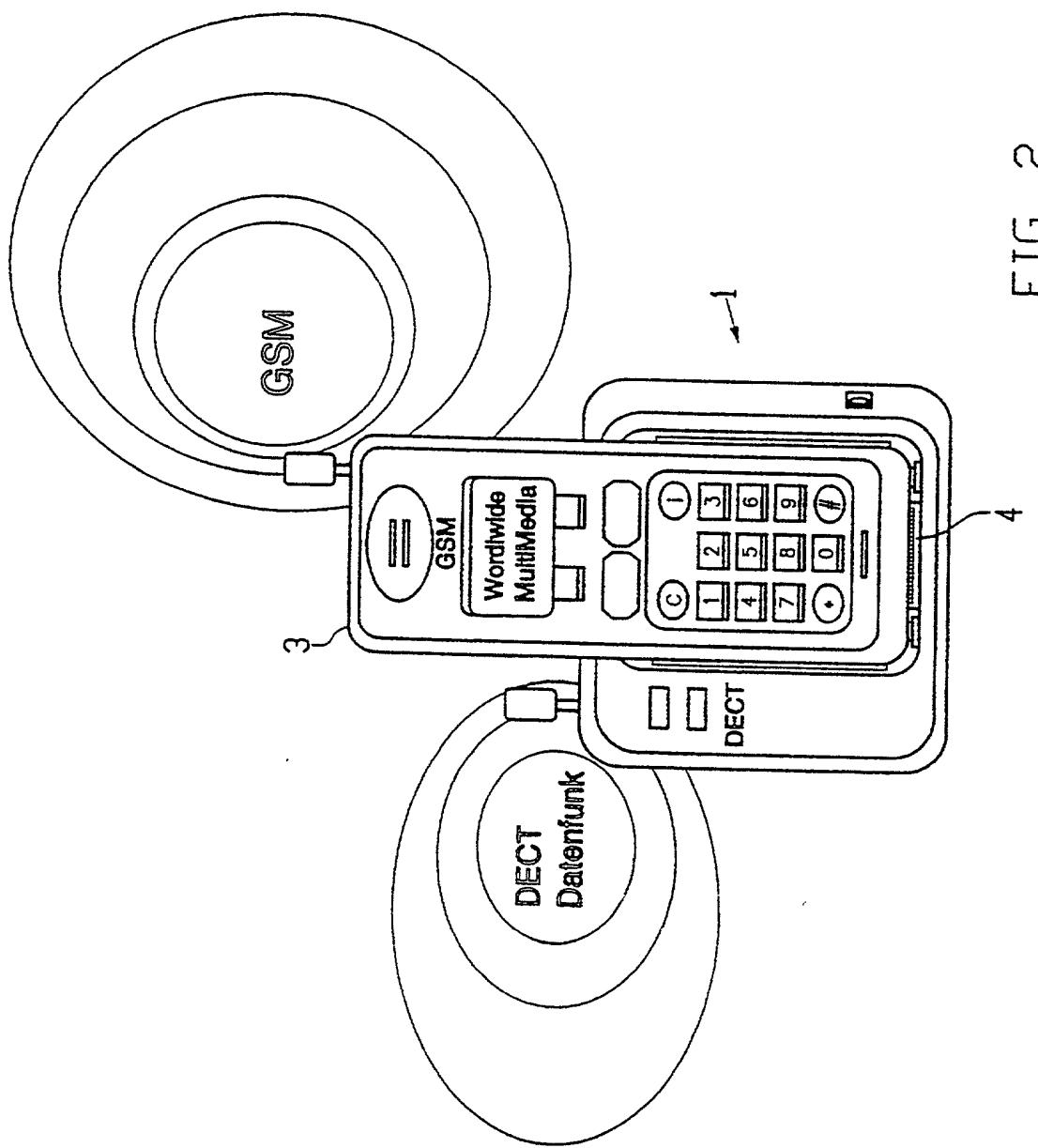


FIG. 2

3/3

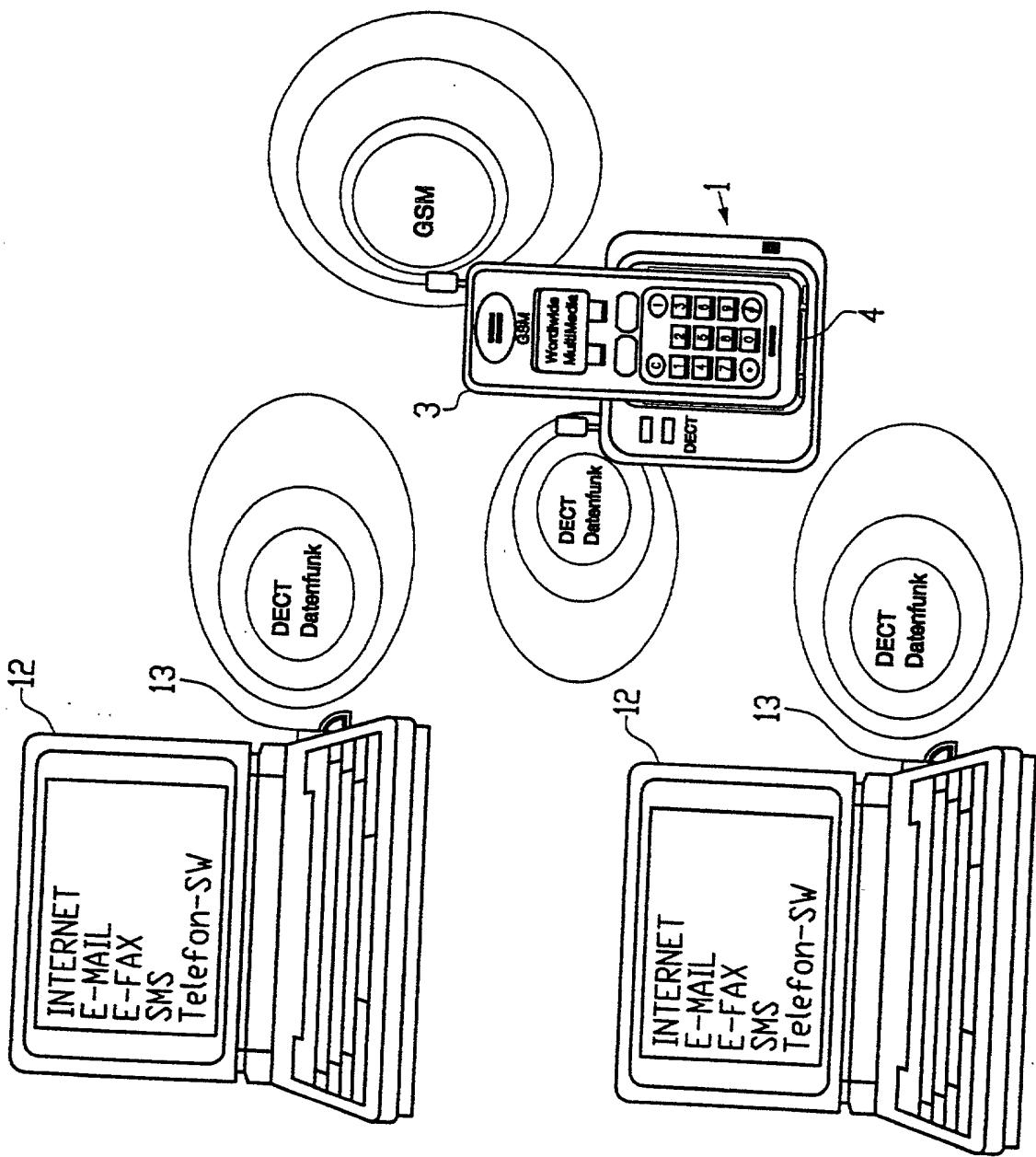


FIG. 3

Declaration and Power of Attorney For Patent Application

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled BASE STATION FOR A SHORT-RANGE RADIO SYSTEM AND DATA COMMUNICATION SYSTEM (Attorney Docket No. 41165-9016), the specification of which was filed with my authority, on October 12, 1999 as International Application No. PCT/EP99/07635.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims referred to above.

I acknowledge the duty to disclose to the Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

And I hereby appoint Timothy M. Kelley (Reg. No. 34,201), Christopher B. Austin (Reg. No. 41,592), John C. Bigler (Reg. No. 29,513), David L. De Bruin (Reg. No. 35,489), Gerald L. Fellows (Reg. No. 36,133), Joseph A. Gemignani (Reg. No. 19,482), Gregory J. Hartwig (Reg. No. 46,761), Daniel S. Jones (Reg. No. 42,697), Richard L. Kaiser (Reg. No. 46,158), Casimir F. Laska (Reg. No. 30,862), Edward R. Lawson Jr. (Reg. No. 41,931), Richard H. Marschall (Reg. No. 39,290), Glenn M. Massina (Reg. No. 40,081), Thomas A. Miller (Reg. No. 36,871), Kevin P. Moran (Reg. No. 37,193), Leon Nigohosian, Jr. (Reg. No. 39,791), Andrew R. Peret (Reg. No. 41,246), David R. Price (Reg. No. 31,557), Thomas S. Reynolds II (Reg. No. 45,262), Raye L. Shaffer (Reg. No. 47,933), David B. Smith (Reg. No. 27,595), Derek C. Stettner (Reg. No. 37,945), Billie Jean Strandt (Reg. No. 36,940), Donald W. Walk (Reg. No. 29,118), Sheldon L. Wolfe (Reg. No. 43,996), Paul F. Donovan (Reg. No. 39,962), Jill A. Fahrlander (Reg. No. 42,518), Grady J. Frenchick (Reg. No. 29,018), Karen B. King (Reg. No. 41,898), Teresa J. Welch (Reg. No. 33,049), Robert S. Beiser (Reg. No. 28,687), Witold A. Ziarno (Reg. No. 39,888), and each or any of them, my attorneys or agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

ADDRESS ALL COMMUNICATIONS IN OR PERTAINING TO THIS APPLICATION TO:

Timothy M. Kelley
Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-4108

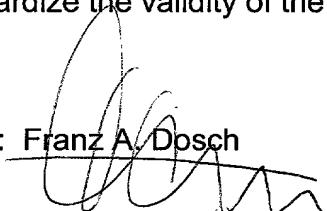
I hereby claim foreign priority benefits under Title 35, United States Code, §119 of the foreign application for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application		
19846952.7 (Number)	Germany (Country)	12 October 1998 (Day/Month/Year Filed)

The undersigned to this Declaration and Power of Attorney hereby authorize the U.S. attorneys named herein to accept and follow instructions from Grünecker, Kinkeldey, Stockmair & Schwanhäusser, Munich, Germany as to any actions to be taken in the U.S. Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and the undersigned. In the event of a change in the person(s) from whom instructions may be taken, the undersigned will so notify the U.S. attorneys.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of inventor: Franz A. Dosch

Inventor's signature 

Date: 21 Oct 01

Residence: Rosenheim, Germany

Citizenship: German

Post Office Address: Hochplattenstrasse 12
83026 Rosenheim, Germany